UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/817,547	03/26/2001	Ronald S. Cok	82391THC	6840

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EXAMINER
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ART UNIT	PAPER NUMBER
2675	

DATE MAILED: 06/16/2004   /2

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *16 April 2004*.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-19* is/are pending in the application.

     4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-19* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

     a)☐ All   b)☐ Some * c)☐ None of:

       1.☐ Certified copies of the priority documents have been received.

       2.☐ Certified copies of the priority documents have been received in Application No. _____.

       3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

     * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

Response to Amendment

1.   The response filed on April 16, 2004 has been entered and considered by

examiner.

Claim Rejections - 35 USC § 103

2.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3.   Claims 1-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Salam (U.S. Patent No. 6,081,073) in view of Shen et al et al (U.S. Patent No.

6,414,661 B1)).

As to claim 1, Salam discloses a dynamic controller for light emitting active matrix

display, the display being responsive a code value (e.g., 256 value) for producing a light

output (see column 3, line 30 through column 4, line 19). Salam teaches a photosensor

located on the display for sensing the light output from the display (see column 5, lines

20-24) and generating a feedback signal (i.e. analog signal outputted from camera 21 or

photosensor) representing thereof (see column 3,lines 58 through column 4, line 11).

Salam teaches a feedback signal converter (A/D converter 22) for converting the

feedback signal to a converted feedback signal (i.e. digital signal brightness reading for

the lamp outputted from A/D converter 22). Salam teaches a code value corrector

(microprocessor 3, memory H) including a memory (memory location H) responsive to a

code value (256 value) for producing a corrected code value (i.e. G value); see column

4, lines 1-35.

Salam does not mention an update calculator for creating an updated corrected

value by combining the converted feedback signal with the corrected code value and

storing the updated corrected code value in the memory. In same view of endeavor

(using photosensor for sensing the light output from the display; see column 8, line 64

through column 9,line 16), Shen teaches an update calculator (16-18) for creating an

update corrected code (i.e. digital value of the current I_{N+1} stored in RAM 20) by

combining the converted feedback signal (e.g., $I_0\tau_0$ generated by CCD camera; see

column 3, lines 4-12) with the corrected code value (I_N) , and storing the updated

corrected code value (I_{N+1}) in the memory (see column 3, lines 1-12 , column 6, lines

16-39, column 7, lines 9-15).   Shen teaches a feedback loop providing converted

feedback signal (e.g., $I_0\tau_0$) generated by a sensor (e.g., CCD camera) on the display

device to update a corrected code value (I_N to I_{N+1}) as the same way as applicant's

disclosed device (see Figure 2 of Shen). Therefore, it would have been obvious to one

of ordinary skill in the art at the invention was made to have used the update calculator

of Shen to the microprocessor of Salam because the update calculator of Shen provides

rapidly and accurately correct resulting non uniformities of an initially calibrated display

during its life (see column 2, lines 48-56 of Shen).

As to claim 2, Salam teaches that "transfer of the G values can be recording

them on a medium which is subsequently read into memory H"; see column 4, lines 36-

44. Thus, there are two memory one is medium memory and another one is memory H. The computer (i.e. code value corrector) computes the G value then recording them to the medium before reading into the memory H. The "medium" of Salam clearly reads on the claimed an immediate memory for receiving and storing corrected data signal from the data signal corrector as recited in the claim.

As to claim 3, Salam teaches that "in this case each lamp in turned on with photocell receiving light from it and the digital reading for the lamp light is recorded in microprocessor memory"; see column 5, lines 20-24. Thus, the microprocessor memory reads on intermediate memory for receiving and storing converted feedback signal (digital signal) from the feedback signal converter (22) as recited in the claim.

As to claim 4, Salam clearly teaches the feedback signals (i.e. analog signal outputted from camera 21 or photosensor) being an analog current signal and the converted feedback signal (digital signal outputted from A/D 22) being a digital code value.

As to claim 5, converting the digital signals to analog signals prior to applying the code value signals to the display device is well-known in the art as taught by Shen as shown in element 14.

As to claim 6, Salam clearly teaches the code values being supplied to the display as digital signals (i.e. analog signals are converted into digital signal by A/D converter 22).

As to claims 7-8, Salam teaches that "each lamp in turned on with the photocell receiving light from it" (see column 5, lines 21-25). This reads on a photosensor for each display pixel .

As to claim 9, Salam clearly teaches means for sending every code to the representative pixel and producing a corrected code value for every code value; see column 5, lines 25-40.

As to claim 10, Salam teaches that the lamps of the instrument panel may be of different groups each group having its lamps set to a brightness particular to the group (see column 7,lines 8-29). This reads on the claimed "partition into multiple units" as recited in the claim, even well-known in the art as admitted by applicant on page 7,lines 14-17 of the specification.

As to claims 11-12, Salam clearly teaches color display device as recited in the claim; see column 7, line 39 through column 8, line 40.

As to claim 13, the claimed "color transformation" is broad enough to read on the color correction as taught by Salam.

As to claim 14-15, Salam teaches a global display attribute ambient illumination; see column 5, lines 45-55 and column 6,lines 58-66.

As to claims 16-17, Salam clearly teaches pixel specific display attribute and position specific display attribute as broad claimed languge. That is Salem's device can change the brightness of the specific pixel at certain or desired position on the screen.

As to claim 18, the G values for the lamp of Salam are updated depending on the brightness of the lamp and the G values are stored in the memory H. This reads on the claimed limitation updating the memory upon start-up as recited in the claim.

4.   Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Salam in view of Shen, as applied to claim 1 and further in view of Holloman (U.S. Patent No. 6,097,360).

As to claim 19, note the discussion of Salam and Shen above, Salam and Shen do not mention the controller and the display device integrated on a common substrate. Holloman teaches that the analog drivers, the control counters, decoders, and video drivers are intended to be built on a common substrate using conventional TFT construction on glass, ceramic or a metal substrate as desired with the light emitting devices... (see column 4, lines 22-33). Therefore, it would have been obvious to one of ordinary skill in the art at the invention was made to have used the common substrate as taught by Holloman to accommodate the controller and the display device of Salam as modified by Shen so that the display device is more compact.

Response to Arguments

5.   Applicant's arguments with respect to claims 1-19 have been considered but are moot in view of the new ground(s) of rejection.

In view of argument, the reference of Shen has been added for new ground of rejection.

Inquiries

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chanh Nguyen whose telephone number is (703) 308-6603.

If attempts to reach the examiner by telephone are unsuccessful, the examiner supervisor, Steven Saras can be reached at 305-9720.

Any response to this action should be mailed to:

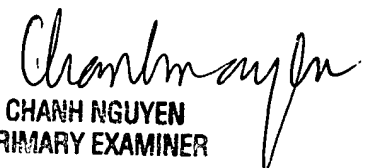Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

(703) 872-9306

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist)

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

C. Nguyen
June 18, 2004

CHANH NGUYEN
PRIMARY EXAMINER